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**west virginia** department of environmental protection

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Division of Air Quality  
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Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
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**PERMIT FOR A MODIFICATION TO A  
FERRO ALLOY PRODUCTION FACILITY**

IN ACCORDANCE WITH THE WEST VIRGINIA AIR POLLUTION CONTROL LAW (W. Va. Code §§22-5-1 et seq.), AND REGULATIONS PROMULGATED THEREUNDER, THE FOLLOWING PERMITTEE IS AUTHORIZED TO CONSTRUCT, SUBJECT TO THE TERMS AND CONDITIONS OF THIS PERMIT, THE SOURCE DESCRIBED BELOW.

This permit will supersede and replace Permit R14-17B

Name of Permittee: WVA Manufacturing, LLC

Name of Facility: Alloy Facility

Permit No.: R14-017C

Plant ID No.: 019-00001

Effective Date of Permit: DRAFT

Permit Writer: Steven R. Pursley, PE

Facility Mailing Address: PO Box 248  
Alloy, WV

County: Fayette

Nearest City or Town: Alloy, WV

UTM Coordinates: Easting: 476.01 km      Northing: 4220.96 km      Zone: 17

Directions to Exact Location: Facility is located on the Kanawha River, approximately 30 miles southeast of Charleston, WV on U.S. Route 60

Type of Facility or Modification: Modification to increase emission limits from EAF 15 and permanently remove Boiler 4.

THE SOURCE IS SUBJECT TO 45CSR30. THE PERMITTEE HAS THE DUTY TO UPDATE THE FACILITY'S TITLE V (45CSR30) PERMIT APPLICATION TO REFLECT THE CHANGES PERMITTED.

IN ACCORDANCE WITH THE PERMIT APPLICATION AND ITS AMENDMENTS, THIS PERMIT IS LIMITED AS FOLLOWS:

## **A. SPECIFIC REQUIREMENTS**

1. Particulate emissions from electric submerged arc furnace number 15 (ID 003-07) shall be controlled by venting gases from the furnace and controlled furnace tapping operations through baghouse 0012 or 0013 (emission point IDs. 016 or 017).
2. The mass of particulate matter entering Baghouse number 0012 and/or baghouse number 0013 operated in conjunction with furnace number 15 shall be reduced by at least 99% before discharge to the atmosphere.
3. Visible emissions from all operations directly associated with furnace number 15 (including furnace charging, refining, tapping, and ladle additions,) shall not equal or exceed 20% opacity (§45-7-4.7.a). In accordance with 45CSR7 and 45CSR7A, opacity observations at the baghouse discharge points, the roof monitor above furnace number 15, and from all external ductwork handling gases from furnace number 15 shall not be as dark as or darker in shade than 20% opacity. Opacity observations shall not be averaged in determining compliance with this visible emission limitation. This visible emission standard shall not be applicable during blowing taphole events, poling, and oxygen lancing. Poling emissions shall not exceed five (5) minutes in duration during any poling operation.
4. Visible emissions from casting and associated operations following removal of the ladle (s) from the tapping station (including ladle switching, slag handling and reladling) shall not exceed the 20% opacity except that visible emissions from such operations shall not equal or exceed 40% opacity for an aggregate 5 minutes in any 60 minute period.
5. The company shall adhere to the following standard operating practices with respect to casting operations associated with Furnace number 15:

### **For molten slag handling operations:**

1. After the pouring has been completed, the ladle is brought to a full upright position and moved to the rakeout station.
2. The bottom blowing system remains on low-flow mode through the entire rakeout and repositioning process.
3. The ladle is lowered as close to the bottom of the pit as possible and slowly turned completely over to dump any loose slag.

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4. The ladle then is raised parallel to the ground and the harder-to-remove slag is “raked” out by the operator using a rakeout machine.
5. The ladle is once again lowered close to the ground and turned completely over to dump any slag remaining in the ladle.
6. The ladle is righted and moved back into the pit.

**For casting operations:**

1. Removal of non-process material in chills prior to pouring to chills.
2. Keep ladle lip close to chills during pouring to chills.
3. Reduce refining gas flow during pouring to chills.
4. Reduce molten metal temperature prior to pouring to chills.
6. Testing to determine compliance with Specific Requirements A.3 and A.4. shall be conducted in accordance with 45CSR7A or an alternative method approved by the Director.
7. Emissions from electric submerged arc furnace number 15 vented through emission point ID. 016 or 017 shall not exceed the following types and amounts of pollutants:

POLLUTANT	LB/HR	TONS/YR
Lead	0.01	0.03
Particulate Matter (PM)	26.57	111.6
Particulate Matter < 10 microns (PM <sub>10</sub> )	22.71	95.38
Volatile Organic Compounds (VOC)	4.15	17.44
Oxides of Nitrogen (NO <sub>x</sub> )	110.0	462.0
Sulfur Dioxide (SO <sub>2</sub> )	175.61	737.56
Carbon Monoxide (CO)	57.88	243.11

8. Electric submerged arc furnace number 15 shall not produce ferroalloys in excess of 18,000 tons per calendar year. Provided that in no event shall the emission limits set forth in Specific Requirement A.7. be exceeded. Additionally:

1. The permittee shall not combust a coal and charcoal mixture in EAF 15 with a sulfur content of greater than 2.15%.
2. EAF 15 shall not operate more than 8,400 hours per year.
9. The Director has approved the particulate emission limitations for furnace number 15 in Specific Requirements A.2, A.3, and A.7 based upon the presumption that number 15 furnace and all other components of the duplicate source operation including all operating electric submerged arc furnaces comply with the provisions of 45CSR7, Section 4.7.a. Upon any finding by the Director that any part of this duplicate source operation fails to comply with the provisions of 45CSR7, Section 4.7.a, furnace number 15 shall be subject to a particulate mass emission limitation determined in accordance with 45CSR7, Sections 4.1, 4.4, 4.7, and 4.8 and including section 4.5 if also applicable.
10. Visible emissions from the material handling and/or preparation activities identified as process area ID 026 in Permit Application R13-2091 shall be minimized through the use of a slurry truck (unless the baghouse dust is being sold as a product in which case it may be loaded out either dry or wet) to collect baghouse dust and operation of a suction pipe surrounding the dust discharge pipe into the truck to collect fugitive dust. Particulate emissions of slag loading to barges shall be minimized through the use of wet suppression.
11. Volumetric gas flow as shown by the volumetric gas flow rate through tapping and poling hoods and gates associated with furnaces 3, 6, 7, 14, and 15 OR fan motor power consumption of each motor of each fan serving to move gases through each of the tapping control system hoods on furnaces 3, 6, 7, 14, and 15 shall be maintained at or above the levels established during the most recent compliance tests which demonstrated compliance with 45CSR7, and these systems shall be designed, maintained, and operated so as to conform to the capture efficiency and mass emission rates set forth in permit application number R13-2091 and R14-17, at all times that furnaces 3, 6, 7, 14, or 15 are in operation. The tapping and poling hoods and gates shall be positioned and all tapping operations fans and hoods will be operated to assure maximum feasible capture of emissions during all tapping operations including during ladle additions, blowing tapholes, poling, oxygen lancing operations, plugging, burning, and switching ladles.
12. The physical configuration of all particulate capture equipment associated with furnace number 15, including hoods and ductwork and the method of operation of such equipment, including moveable hoods and gates, shall be maintained in accordance with permit application number R13-2091 and R14-17 and the most recent performance test demonstrating compliance, unless the permittee receives approval from the Director for an alternative or equivalent design or modified operation. This requirement is also applicable to furnace numbers 3,

6, 7, and 14 with respect to particulate matter capture systems for tapping and associated operations.

13. At all times that electric submerged arc furnace number 15 is operated, the permittee shall maintain total volumetric gas flow to the baghouse(s), as shown by the volumetric gas flow rate to baghouse number 0012 and 0013 when servicing furnace number 15 or fan motor power consumption of each motor of each fan serving to move gases to baghouse number 0012 and 0013 when servicing furnace number 15, at or above the levels established during the most recent compliance tests which demonstrated compliance with 45CSR7 and this permit.
14. The Director may require the permittee to verify any fan performance curve by monitoring necessary fan-operating parameters and determining the gas volume moved using methods 1 and 2 of 40 CFR 60, Appendix A.
15. At all times that electric submerged arc furnace number 15 is operated, the permittee shall maintain the pressure drop across each separate compartment of baghouse number 0012 and 0013 when servicing furnace number 15 within the levels established during the most recent compliance test which demonstrated compliance with 45CSR7 and this permit.
16. The permittee shall adhere to the following standard operating procedures for baghouses number 0012 and 0013:
  1. Daily inspection of baghouse visible emissions when servicing EAF 15.
  2. Weekly confirmation that dust is being removed from the hoppers when servicing EAF 15.
  3. Monthly checks of bag cleaning mechanisms for proper functioning when servicing EAF 15.
  4. Quarterly confirmation of the physical integrity of the baghouse when servicing EAF 15.
  5. Semiannual inspection of the fans when servicing EAF 15.
17. Tests that may be required by the Director to determine compliance with the emission limitations set forth in SPECIFIC REQUIREMENTS A.2, A.7 and A.22 of this permit shall be conducted in accordance with the methods as set forth below. The Director may require a different test method or approve an alternative method in light of any new technology advancements that may occur.

Compliance testing shall be conducted at maximum achievable load unless otherwise specified by the Director.

- a. Tests to determine compliance with PM emission limits shall be conducted in accordance with Method 5, or 5D, as set forth in 40 CFR 60, Appendix A.
- b. Tests to determine compliance with SO<sub>2</sub> emission limits shall be conducted in accordance with Method 6, 6A, 6B, or 6C as set forth in 40 CFR 60, Appendix A.
- c. Tests to determine compliance with CO emission limits shall be conducted in accordance with Method 10 or 10B as set forth in 40 CFR 60, Appendix A.
- d. Tests to determine compliance with NO<sub>x</sub> emission limits shall be conducted in accordance with Method 7, 7A, 7B, 7C, 7D, or 7E as set forth in 40 CFR 60, Appendix A.
- e. Tests to determine compliance with VOC emission limits shall be conducted in accordance with Method 25, or 25A as set forth in 40 CFR 60, Appendix A.

18. The permittee shall install, calibrate, maintain, and operate the following:

- a. A device(s) capable of continuously measuring, and recording at least once per shift, the volumetric gas flowrate or fan motor power consumption across each fan serving to move gases through the tapping hoods and associated ductwork of furnaces number 3, 6, 7, 14, and 15. Each gas flow measurement device shall have an accuracy of  $\pm 10$  percent over its operating range, and each fan power consumption measurement device shall have an accuracy of  $\pm 5$  percent over its operating range. If the option of volumetric gas flowrate is chosen, the device(s) shall be installed within 180 days of start-up of furnace number 15. If the option of fan motor power consumption is chosen, the device(s) shall be installed within 60 days of start-up of furnace number 15.
- b. A device(s) capable of continuously measuring, and recording at least once per shift, volumetric gas flowrate or fan motor power consumption across each fan serving to move all gases from furnace number 15 to the baghouse(s) serving furnace 15. Each gas flow measurement device shall have an accuracy of  $\pm 10$  percent over its operating range, and each fan power consumption measurement device shall have an accuracy of  $\pm 5$  percent over its operating range.

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- c. A device(s) capable of continuously measuring and recording pressure drop across each separate compartment of Baghouse Nos. 0012 and 0013 when servicing furnace number 15. Each such device shall have an accuracy of  $\pm 5$  percent over its operating range.
  - d. The Director may modify the requirement to record data in Specific Requirement A.18.a and A.18.b to establish a different frequency of recording such data.
19. Under the provisions of this permit, the permittee shall maintain records containing the following information in a format which can be readily made available to the Director:
- Hour of operation of EAF 15 on at least a daily basis.
  - Type and quantity of material produced in furnace number 15 on at least a daily basis
  - The average sulfur content of the coal and charcoal mix going into EAF 15 on at least a monthly basis.
  - The amount of coal and charcoal going into EAF 15 on at least a daily basis.
  - Volumetric gas flowrate(s) through the tapping hood systems of furnaces 3, 6, 7, 14, and 15 or fan motor power consumption of each fan serving to move gases through the tapping hood systems of furnaces 3, 6, 7, 14, and 15
  - Total volumetric gas flowrate(s) to baghouse number 0012 and 0013 when servicing furnace number 15 or fan motor power consumption of each motor of each fan serving to move gases to baghouse number 0012 and 0013 when servicing furnace number 15
  - For the baghouse(s) in use by furnace number 15, the baghouse(s) pressure drop data (for each section or module)
  - Fan performance curves for all fans serving furnace number 15 and those fans serving the tapping operations for furnaces 3, 6, 7, and 14
  - Recordkeeping of poling operations to determine compliance with §45-7-5.3 and Specific Requirement A.3., provided that failure to keep such records shall not be a violation of this permit, but failure to keep such records shall be a waiver of the defense of §45-7-5.3 as to poling.

- Records of maintenance checks and standard operating procedures required in Specific Requirements A.5. and A.16.

Said records shall be maintained on site for a period of five (5) years. Said records shall be certified by a responsible official or his/her designee and made available to the Director of the Division of Air Quality or his/her duly authorized representative upon request.

20. Upon start-up of the chosen devices required to be installed, calibrated and maintained in Specific Requirement A.18, the permittee shall provide written notice of the type of device installed or of any future change in the type of device installed.
21. All required monitoring devices shall be checked for calibration annually in accordance with the procedures under 40 CFR 60.13(b).
22. Even after the expiration of consent order CO-R14-E-2002-2003 West Virginia Alloys, Inc. shall continue to follow all requirements and work practices as outlined in section V.9 of said consent order.
23. Boilers 1, 2 and 3 shall not be modified, reconstructed or operated without WVA Manufacturing, LLC first receiving a permit pursuant to either 45CSR13 or 45CSR14.
24. Boiler #4 has been permanently shut down and shall not operate in the future.

## **B. OTHER REQUIREMENTS**

1. The permittee shall comply with all applicable provisions of 45CSR7, 45CSR10, 45CSR14, and 45CSR30 provided that the permittee shall comply with any more stringent requirements as may be set forth under SPECIFIC REQUIREMENTS, Section (A) of this permit.
2. The pertinent sections of 45CSR7 applicable to this facility include, but are not limited to, the following:

### **§45-7-3.1.**

No person shall cause, suffer, allow, or permit emissions of smoke and/or particulate matter into the open air from any process source operation greater than twenty (20) percent opacity, except as noted in subsections 3.2, 3.3, 3.4, 3.5, 3.6, and 3.7.

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§45-7-4.1.

No person shall cause, suffer, allow, or permit particulate matter to be vented into the open air from any type source operation or duplicate source operation, or from all air pollution control equipment installed on any type source operation or duplicate source operation in excess of the quantity specified under the appropriate source operation type in Table 45-7A found at the end of this rule.

§45-7-5.1.

No person shall cause, suffer, allow or permit any manufacturing process or storage structure generating fugitive particulate matter to operate that is not equipped with a system, which may include, but not be limited to, process equipment design, control equipment design or operation and maintenance procedures, to minimize the emissions of fugitive particulate matter. To minimize means such system shall be installed, maintained and operated to ensure the lowest fugitive particulate matter emissions reasonably achievable.

§45-7-5.2.

The owner or operator of a plant shall maintain particulate matter control of the plant premises, and plant owned, leased or controlled access roads, by paving, application of asphalt, chemical dust suppressants or other suitable dust control measures. Good operating practices shall be implemented and when necessary particulate matter suppressants shall be applied in relation to stockpiling and general material handling to minimize particulate matter generation and atmospheric entrainment.

3. The pertinent sections of 45CSR10 applicable to this facility include, but are not limited to, the following:

§45-10-4.1.

No person shall cause, suffer, allow, or permit the emission into the open air from any source operation an in-stack sulfur dioxide concentration exceeding 2,000 parts per million by volume from existing source operations.

4. The pertinent sections of 45CSR14 applicable to this facility include, but are not limited to, the following:

§45-14-7.1

Any person proposing to construct, or relocate a major stationary source or major modification shall meet each applicable emissions limitation promulgated by the Director and any applicable emissions standard or standard of performance under 40 CFR 60, 61, and 63.

§45-14-7.3

Any person proposing a major modification of a stationary source shall apply best available control technology for each regulated pollutant for which such proposed major modification would cause a significant net emissions increase from such source. This requirement applies to each proposed emissions unit at which a net emissions increase in the pollutant would occur as a result of a physical change or change in the method of operation in the unit.

§45-14-18.1.

A permittee may petition the Director for a transfer of a permit previously issued in accordance with this rule. The Director shall approve such permit transfer provided the following conditions are met:

§45-14-18.1(a)

The permittee, in the petition, describes the reasons for the requested permit transfer and certifies that the subject source is in compliance with all the provisions and requirements of its permit, and

§45-14-18.1(b)

The transferee acknowledges, in writing, that it accepts and will comply with all the requirements, terms, and conditions as contained in the subject permit.

§45-14-18.2.

The Director shall suspend or revoke a permit if, after eighteen (18) months from the date of issuance the holder of the permit cannot provide the Director, at the Director's request, with written proof of a good faith effort that such construction, modification, or relocation has commenced and remains ongoing. Such proof shall be provided not later than thirty (30) days after the Director's request.

§45-14-18.3.

The Director may suspend, modify, or revoke the permit if the plans and specifications upon which the approval was based or the conditions established in the permit are not adhered to.

## **C. GENERAL REQUIREMENTS**

1. In accordance with 45CSR30 - "Operating Permit Program", the permittee shall not operate nor cause to operate the permitted facility or other associated facilities on the same or contiguous sites comprising the plant without first filing a Certified Emissions Statement (CES) and paying the appropriate fee. Such Certified Emissions Statement (CES) shall be filed and the appropriate fee paid

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annually. A receipt for the appropriate fee shall be maintained on the premises for which the receipt has been issued, and shall be made immediately available for inspection by the Secretary or his/her duly authorized representative.

2. Approval of this permit does not relieve the permittee herein of the responsibility to apply for and obtain all other permits, licenses, and/or approvals from other agencies; i.e., local, state, and federal, which may have jurisdiction over the construction and/or operation of the source(s) and/or facility herein permitted.
3. The permitted facility shall be constructed and operated in accordance with information filed in Permit Application R13-2091, R14-017, R14-017A, R14-017B, and R14-017C and any amendments thereto. The Secretary may suspend or revoke a permit if the plans and specifications upon which the approval was based are not adhered to.
4. At such reasonable time(s) as the Secretary may designate, the permittee shall conduct or have conducted test(s) to determine compliance with the emission limitations established in the permit application and/or applicable regulations. Test(s) shall be conducted in such a manner as the Secretary may specify or approve and shall be filed in a manner acceptable to the Secretary. The Secretary, or his/her duly authorized representative, may at his option witness or conduct such test. Should the Secretary exercise his option to conduct such test(s), the permittee shall provide all the necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment, and the required safety equipment such as scaffolding, railings, and ladders to comply with generally accepted good safety practices. For any tests to be conducted by the permittee, a test protocol shall be submitted to the DAQ by the permittee at least thirty (30) days prior to the test and shall be approved by the Secretary. The Secretary shall be notified at least fifteen (15) days in advance of the actual dates and times during which the test will be conducted.
5. In the event the permittee should deem it necessary to suspend, for a period in excess of sixty (60) consecutive calendar days, the operations, either in whole or in part, authorized by this permit, the permittee shall notify the Secretary, in writing, within two (2) calendar weeks of the passing of the sixtieth (60) day of the suspension period.
6. The provisions of this permit are severable and should any provision(s) be declared by a court of competent jurisdiction to be invalid or unenforceable, all other provisions shall remain in full force and effect.

7. The permittee shall notify the Secretary, in writing, within fifteen (15) calendar days of the commencement of the construction, modification, or relocation activities authorized under this permit.
8. The permittee shall notify the Secretary, in writing, at least fifteen (15) calendar days prior to actual startup of the operations authorized under this permit.
9. This permit is transferable in accordance with the requirements outlined in Section 10.1 of 45CSR13.
10. Violations of any of the conditions contained in this permit, or incorporated herein by reference, may subject the permittee to civil and/or criminal penalties for each violation and further action or remedies as provided by West Virginia Code 22-5-6 and 22-5-7.
11. At such time(s) as the Secretary may designate, the permittee herein shall prepare and submit an emission inventory for the previous calendar year, addressing the emissions from the facility and/or process(es) authorized herein, in accordance with the emission inventory submittal requirements of the Division of Air Quality. After the initial submittal, the Secretary may, based upon the type and quantity of the pollutants emitted, establish a submittal frequency other than on an annual basis.

ISSUED BY: \_\_\_\_\_

JOHN A. BENEDICT, DIRECTOR  
WV DEPARTMENT OF ENVIRONMENTAL PROTECTION  
DIVISION OF AIR QUALITY

DATE SIGNED: \_\_\_\_\_

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